UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R036XB119NM

Site Name: Clayey Bottomland

Precipitation or Climate Zone: 10 - 16 inches

Phase: NA

XBYSIOGRAPHIC FEATURES

Narrative:

This site occurs in valley or floodplain positions, including swales or draws with substantial drainage areas. This site can receive periodic inundation from flood waters.

Land Form:

1. Bottomland
2. Floodplain
3. Valley floor

Aspect:

1. Not significant
2.
3.

	Minimum	Maximum
Elevation (feet)	6,000	7,300
Slope (percent)	0	4
Water Table Depth (inches)	54	>72

Flooding:	Minimum	Maximum
Frequency	Rare	Frequent
Duration	Very brief	long

Ponding:	Minimum	Maximum
Depth (inches)	None	None
Frequency	None	None
Duration	None	none

Runoff Class:

High

Hydrologic group D

CLIMATIC FEATURES

Narrative:

Average annual precipitation varies from about 10 inches to just over 16 inches. Fluctuations ranging from 5 to 25 inches are not uncommon. The overall climate is characterized by cold dry winters in which winter moisture is less than summer. Half or more of the annual precipitation can be expected to come during the period of July through September. Fall conditions are often more favorable for growth of cool season perennial grasses, shrubs, and forbs than those of spring.

	Minimum	Maximum
Frost-free period (days):	51	171
Freeze-free period (days):	130	252
Mean annual precipitation (inches):	10	16

Monthly moisture (inches) and temperature (^{0}F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.40	.91	12.9	47.0
February	.43	.65	16.6	51.2
March	.47	1.10	20.9	57.1
April	.30	.49	26.1	65.3
May	.46	.98	33.4	74.2
June	.51	.57	41.4	84.2
July	2.15	3.45	50.4	85.1
August	2.28	3.03	48.7	82.4
September	1.29	1.68	41.4	77.9
October	.81	1.12	29.4	69.2
November	.38	.71	19.1	57.3
December	.53	.95	13.1	48.9

Climate Stations:

					Period		
Station ID	290640	Location	Augustial 2E	From:	05/01/1926	To:	07/31/2000
Station ID	296812	Location	Pietown 19NE	From:	09/01/1988	To:	07/31/2000
Station ID	297180	Location	Quemado	From:	Period 08/01/1915	To:	07/31/2000

Period

INFLUENCING WATER FEATURES

Narrative:

This site is not influenced by water from wetlands or streams.

Wetland description:

System	Subsystem	Class
NA	NA	NA

If Riverine Wetland System enter Rosgen Stream Type:

NA

REPRESENTATIVE SOIL FEATURES

Narrative:

These soils are moderately deep to deep with fine or very fine textured surfaces. Permeability is moderately slow to slow. Available water capacity is moderate to high. A thin strata of subsurface materials from gravel to clay is common. Erosion hazard is mainly in the form of gullying, piping and draining of the site when vegetation has deteriorated from its natural potential. Characteristic soils are Moriarty silty clay, Navajo clay, and Manzano clay loam.

Parent Material Kind: Alluvium
Parent Material Origin: Mixed - Calcareous

Surface Texture:

1. Clay loam -- CL
2. Silty clay loam -- SiCL
3. Sandy clay loam -- SCL

Surface Texture Modifier:

1. NA

Subsurface Texture Group: NA
Surface Fragments <=3" (% Volume): Unknown
Surface Fragments >3" (% Volume): Unknown
Subsurface Fragments <=3" (%Volume): 5
Subsurface Fragments >=3" (%Volume): Unknown

	Minimum	Maximum
Drainage Class:	Well drained	Well drained
Permeability Class:	Impermeable	Very slow
Depth (inches):	20	72
Electrical Conductivity (mmhos/cm):	0.00	8.00
Sodium Absorption Ratio:	0.00	12.00
Soil Reaction (1:1 Water):	6.6	8.4
Soil Reaction (0.1M CaCl2):	--	--
Available Water Capacity (inches):	5	7
Calcium Carbonate Equivalent (percent):	--	--

PLANT COMMUNITIES

Ecological Dynamics of the Site:

Plant Communities and Transitional Pathways (diagram)

Plant Community Name: Historic Climax Plant Community

Plant Community Sequence Number: 1 Narrative Label: HCPC

Plant Community Narrative:
This site is typically dominated by western wheatgrass. Vine-mesquite, blue grama, galleta, and spike muhly occur in lesser amounts but are common and important components of the potential plant community. Alkali sacaton and giant sacaton are found but on a lesser consistent level of occurrence than most of the other species characteristic of the site. Shrubs include fourwing saltbush, rabbitbrush, and sometimes winterfat. Forbs occur in minor but evenly distributed amounts across the site.

Ground Cover (Aveage Percent of Surface Area).	
Grasses & Forbs	50
Bare ground	18
Surface gravel	--
Surface cobble and stone	1
Litter (percent)	30
Litter (average depth in cm.)	3
Survace Gravel (% cover)	--
Canopy Cover - Shrub and half shrub	5

Plant Community Annual Production (by plant type):

	Annual Production (lbs/ac)		
Plant Type	Low	RV	High
Grass/Grasslike	1063	1891	2720
Forb	75	134	192
Tree/Shrub/Vine	125	223	320
Lichen	--	--	--
Moss	--	--	--
Microbiotic Crusts	--	--	--
Totals	1263	2248	3232

Plant Community Composition and Group Annual Production:

Plant Type - Grass/Grasslike

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	PASM	Western wheat	779-1001	779-1001
2	PAOB	Vine - mesquite	223-334	223-334
3	BOGR2	Blue gramma	111-223	111-223
4	PLJA MUWR	Galleta Spike muhly	223-334	334
5	SPAI	Alkali sacaton	111-223	111-223
6	ELEL5	Bottlebrush squirreltail	22-67	22-67
7	MURI MURE ARIST	Mat muhly Creeping muhly Threeawns Spp.	22-111	22-111

Plant Type - Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
8	ATCA2	Fourwing saltbush	67-223	67-223
9	KRLA2	Winterfat	22-67	22-67
10	ERNAN5 GUSA2 ARBI3	Rubber Rabbitbrush Broom snakeweed Bigelow sagebrush	22-111	22-111
Plant Type – Forb				
11	2FP	Perennial forbs	22-111	22-111
12	2FA	Annual forbs	22-67	622-677

Plant Type - Lichen

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
NA	NA	NA	NA	NA

Plant Type - Moss

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
NA	NA	NA	NA	NA

Plant Type - Microbiotic Crusts

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
NA	NA	NA	NA	NA

Plant Growth Curves

Growth Curve ID NM0310

Growth Curve Name: HCPC

Growth Curve Description: WP-2 Clayey Bottomland HCPC Warm/Cool

Season perennial plant community

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	8	15	10	9	20	25	8	5	0	0

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:
This range site prvides habitats that support a resident animal community that is characterized by pronghorn antelope, coyote, black-tailed jackrabbit, Betta's pocket gopher, sparrow hawk, mourning dove, Chipping sparrow, Western spadefoot toad, leopard lizard, and prairie rattlesnake. The Chestnut-collared longspur winters on this site and the common raven and prairie falcon hunt over it.

Hydrology Functions:
This site is in hydrologic group D. Runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

Hydrologic Interpretations	
Soil Series	Hydrologic Group
Moriarty	D

Recreational Uses:

This site offers limited opportunity for establishing samll water areas, usually of intermittent nature, in the form of ponds or tanks. It also has potential for hiking, horseback riding, nature observation, photography, picnicking, and camping. The establishment of trails for hiking or horseback riding should be done with care, however, since frequently used trails can furnish places for natural flood waters to channel and thus begin gullying of the site. Pernament sites for picnicking and camping are best located away from this site because of flooding hazards.

Lush vegetative growth resulting from summer flooding can cause this site to contrast sharply with those surrounding it, and natural beauty is thus enhanced.

Wood Products:

This site has little or no significant value for wood products.

Other Products:

This site is suitable for grazing by most kinds and classes of livestock without regard to season of the year. It is best suited, however, to mother cows with calves old enough to take a substantial amount of milk during spring and summer months when grasses are most productive following flooding.

Excessive grazing use over a prolonged period will result in a decrease in western wheatgrass, vine-mesquite, and alkali sacaton. Blue grama may increase initially but will eventually decrease if the heavy grazing continues, and the site then becomes subject to a takeover by rabbitbrush and other invading woody plants such as sagebrush or greasewood. The site is subject to gullying or draining when the natural potential vegetation is so disturbed and may not be recoverable using improved grazing alone.

Other Information:

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index	Ac/AUM
100 - 76	2.0 - 2.9
75 – 51	2.7 - 4.3
50 – 26	4.0 - 7.5
25 – 0	7.5+

Ecological Site Description Plant Part and Species Preference Codes

Indicator Status	Codes
Incomplete	I
Complete	C

Plant Parts	Code	Species Preference	Code
Stems	S	None Selected	N/S
Leaves	L	Preferred	P
Flowers	F	Desirable	D
Fruit/Seeds	F/S	Undesirable	U
Entire Plant	EP	Not Consumed	NC
Underground Parts	UP	Emergency	E
		Toxic	T

Plant Preference by Animal Kind:

Animal Kind: Livestock
Animal Type: Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Western wheatgrass	Pascopyrum Smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Alkali sacaton	Sporobolus airoides	EP	D	D	D	D	D	P	P	P	D	D	D	D
Vine-mesquite	Panicum obtusum	EP	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Blue gramma	Bouteloua gracilis	EP	D	D	D	D	P	P	P	P	P	D	D	D
Spike muhly	Muhlenbergia Wrightii	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Giant sacaton	Sporobolus Wrightii	EP	D	D	D	D	D	P	P	P	D	D	D	D
Bottlebrush squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	D	D	D	U
Winterfat	Krascheninnikovia lanata	EP	D	D	P	P	P	P	P	P	D	D	D	D
Fourwing saltbush	Atriplex canescens	EP	P	P	P	P	P	D	D	D	D	D	D	P

Plant Preference by Animal Kind:

Animal Kind: Livestock

Animal Type: Sheep

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Galleta	Pleuraphis jamesii	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Most perennial forbs	Various	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Vine-mesquite	Panicum obtusum	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Blue gramma	Bouteloua gracilis	EP	D	D	D	D	P	P	P	P	P	D	D	D
Spike muhly	Muhlenbergia Wrightii	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Bottlebrush squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	U	U	U	U
Winterfat	Krascheninnikovia lanata	EP	P	P	P	P	P	P	P	P	P	P	P	P
Fourwing saltbush	Atriplex canescens	EP	P	P	P	P	P	D	D	D	D	D	D	P

Plant Preference by Animal Kind:

Animal Kind: Livestock

Animal Type: Horses

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Western wheatgrass	Pascopyrum Smithii	EP	D	D	P	P	P	D	D	D	D	D	D	D
Alkali sacaton	Sporobolus airoides	EP	D	D	D	D	D	P	P	P	D	D	D	D
Vine-mesquite	Panicum obtusum	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Blue gramma	Bouteloua gracilis	EP	D	D	D	D	P	P	P	P	P	D	D	D
Spike muhly	Muhlenbergia Wrightii	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Giant sacaton	Sporobolus Wrightii	EP	D	D	D	D	D	P	P	P	D	D	D	D
Bottlebrush squirreltail	Elymus elymoides	EP	U	U	D	D	D	U	U	U	D	D	D	U

Plant Preference by Animal Kind:

Animal Kind: Wildlife

Animal Type: Pronghorn

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Most perennial forbs	Various	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Bottlebrush squirreltail	Elymus elymoides	EP	U	U	P	P	P	U	U	U	D	D	D	U
Winterfat	Krascheninnikovia lanata	EP	D	D	D	D	D	D	D	D	D	D	D	D
Fourwing saltbush	Atriplex canescens	EP	D	D	D	D	D	D	D	D	D	D	D	D

Supporting Information

Associated Sites:

Site Name	Site ID	Site Narrative

Similiar Sites:

Site Name	Site ID	Site Narrative

State Correlation:
This site has been correlated with the following states:

Inventory Data References:

Data Source	Number of Records	Sample Period	State	County

Type Locality:

Relationship to Other Established Classifications:

Other References:
Data collection for this site was done in conjunction with the progressive soil surveys within the New Mexico and Arizona Plateaus & Mesas Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: McKinley, Catron, Cibola, Socorro and Sandoval.

Characteristic Soils Are:	
Moriarty silty clay	

Other Soils included are:	
Navajo clay	Manzano clay loam

Site Description Approval:

Author	Date	Approval	Date
Don Sylvester	2/15/80	Durwood E Ball	3/27/80

Site Description Revision:

Author	Date	Approval	Date
Brenda Simpson	8/20/02	George Chavez	12/16/02